

Common edible Mushrooms of Jammu and Kashmir¹

BY

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(With five figures in two plates)

The region, because of its varied climate and topography, offers a rich field for mushroom collection. Description of common edible species along with field notes for mushroom collectors are provided. Four edible mushrooms from Kashmir valley, *Coprinus atramentarius* (Bull.) Fr., *C. comatus* Fr., *C. micaceus* (Bull.) Fr. and *Pleurotus salignus* Fr. and one from Jammu Province *Pleurotus ostreatus* Fr. white form, are described. Two *Pleurotus* species are new records for India, while the other three have been recorded from Kashmir valley for the first time.

INTRODUCTION

The Kashmir valley has a variety of mushrooms, which are collected regularly by villagers for consumption. A few like Morels (*Morchella* spp.; *Verpa* spp.) and to a lesser extent *Pleurotus* ('Dhingri' local name) are collected in bulk, dried and exported to different parts of the country. The annual export of dried morels from the State is about 12,000 kg valued at a million rupees.

Mushroom hunting if indiscriminate can lead to fatal accidents due to eating of poisonous ones. This series of papers is published with a view to make available to mushroom lovers a field guide for collection and identification of edible mushrooms and also a description of the species recorded is given to assist students of mycology.

Genus *Coprinus* (Pers.) Fr.

This genus is characterised by black spore deposits and conversion of cap and gills into black inky fluid. They are commonly referred to as ink caps and are easy to recognize in the field. The plants vary in

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size and some grow several inches high and more than an inch in breadth. A number of species grow on dung or recently manured ground, while some live on humus and others grow on wood. Most of the larger ones are edible in immature stages. Their only drawback is that they must be picked before they mature and used almost at once. The three species described here are said to be the best edible species in the genus.

Coprinus atramentarius (Bull.) Fr. Syll. Fung. 5:1081, 1887.

Cap: (Pileus) 7 mm to 30 mm wide in button stage and 30-50 mm × 40-70 mm in adult stage, at first conical to egg shaped, later broadly conical covered with grayish bloom which is readily rubbed off. Colour varies from light brown to dark brown, surface mostly smooth, excepting small scales near the top or occasionally at the centre with fine lines or striations marking the entire surface. The marginal half of the cap is furrowed irregularly, forming an uneven edge.

Gills: 4-6 mm (button) and 10-15 mm (adult) wide, crowded, creamy white in young specimens, then pinkish grey and finally black, liquefying from the margin towards the centre.

Stem: 1.5 to 8 cm long, 10 mm to 15 mm thick, hollow, smooth, white and shiny above the faint annulus and provide with small upward pointing scale below. Annulus forms an irregularly zigzag elevated lines of thread which extend around the stem near the base.

Spores: 8-14 × 5-7 μ , elliptical, black.

Collected on ground near the base of trees or on pieces of decomposing wood at Chundinah willow plantation (5200' a.s.l.) 22.iii.1970, T.N. Kaul and J.L. Kachroo, RRLS No. 1, Fig. I.

Reported earlier from Allahabad. New record from Kashmir.

Field notes: *Coprinus atramentarius* is the most common among the edible species of *Coprinus* and forms an article of commerce in the valley. The species fruits during cold wet weather in spring mainly but some crop also appears during summer and fall. Extensive collections are made by villagers from Government willow plantation at Chundinah (Kashmir). Mushrooms grow in dense clumps near the base of standing trees, cut stumps or on decaying wood. The soil is sandy, full of peat and submerged during summer.

An irregular zone of squamules (scales) extending from the base of the stalk for a short distance distinguishes it from other edible species of the genus.

There is no local record of poisoning from the species. Smith (1958), however, refers to the controversy regarding the adverse effect of this species specially in combination with alcoholic beverages.

Coprinus comatus Fr., Syll. Fung., 5:1079, 1887. Berk. in J. Bot. 3, 8, 1856 Banerjee in Bull. Bot. Soc. Bengal 1; p. 42.

Cap: (Pileus) 4-10 cm long, 2-3 cm wide, at first egg shaped, becoming campanulate or barrel shaped as it matures and margin often splitting into lobes, turning into umbrella shape at dissolution. Surface shaggy, covered with prominent brown scales, close together on the buttons and widely separated in the adult stage, sometimes arranged concentrically, white between the scale.

Gills: 6-10 mm wide, free, crowded, creamy white first, pink later, finally black and becoming liquid.

Stem: 4-14 cm long, 10-15 mm thick at the top and 20-25 mm at the base, tapering slightly upwards, white and mostly smooth; hollow even at the young stage with delicate cord suspended in the cavity. Annulus in the form of free movable ring on the stem, generally resting at the base or vanishing entirely.

Spores: 12-18 \times 5-7 μ , elliptic, black.

Collected on the side of a rivulet in Sanat Nagar, Srinagar (5200' a.s.l.) 17-iv-1969 T. N. Kaul & J. L. Kachroo RRLS No. 6, Fig. 2.

Reported from Bombay, Darjeeling and Calcutta on lawns and refuse dumps. New record for Kashmir.

Field notes: *Coprinus comatus* commonly referred to as shaggy mane is easy to identify in the field. Besides the dissolution of the ripening cap into a black liquid it is characterised by scaly surface and narrow loose ring round the stem in earlier stages. European authors have classed it as one of the best among edible fungi.

It has been noticed in the valley growing mainly on the sides of rivulets in shady places from late April to October, mostly solitary, rarely in clumps. Villagers collect the closed button stage for consumption.

Coprinus micaceus (Bull.) Fr. Syll. Fung; 5:1090, 1887; Banerjee in Bull. Bot. Soc. Bengal I: 42.

Cap (Pileus) 20-40 mm wide, at first ovate then conical to campanulate, tan or yellowish brown in colour with prominent striations from the margin up almost to the centre. Surface covered with shining particles.

Gills 3-4 mm wide, crowded, first white then tan, later black, and liquefying.

Stem 4-8 cm long, 3-6 mm thick, slender, fragile, hollow and white. Annulus rarely visible.

Spores 10 \times 5 μ , blackish, sometime brown elliptical.

Collected around stumps of *Robinia pseudoacacia*, in shady moist places in Sanat Nagar, Srinagar (5200' a.s.l.) 9-iv-1970. T. N. Kaul & J. L. Kachroo, RRLS No. 3, Fig. 3.

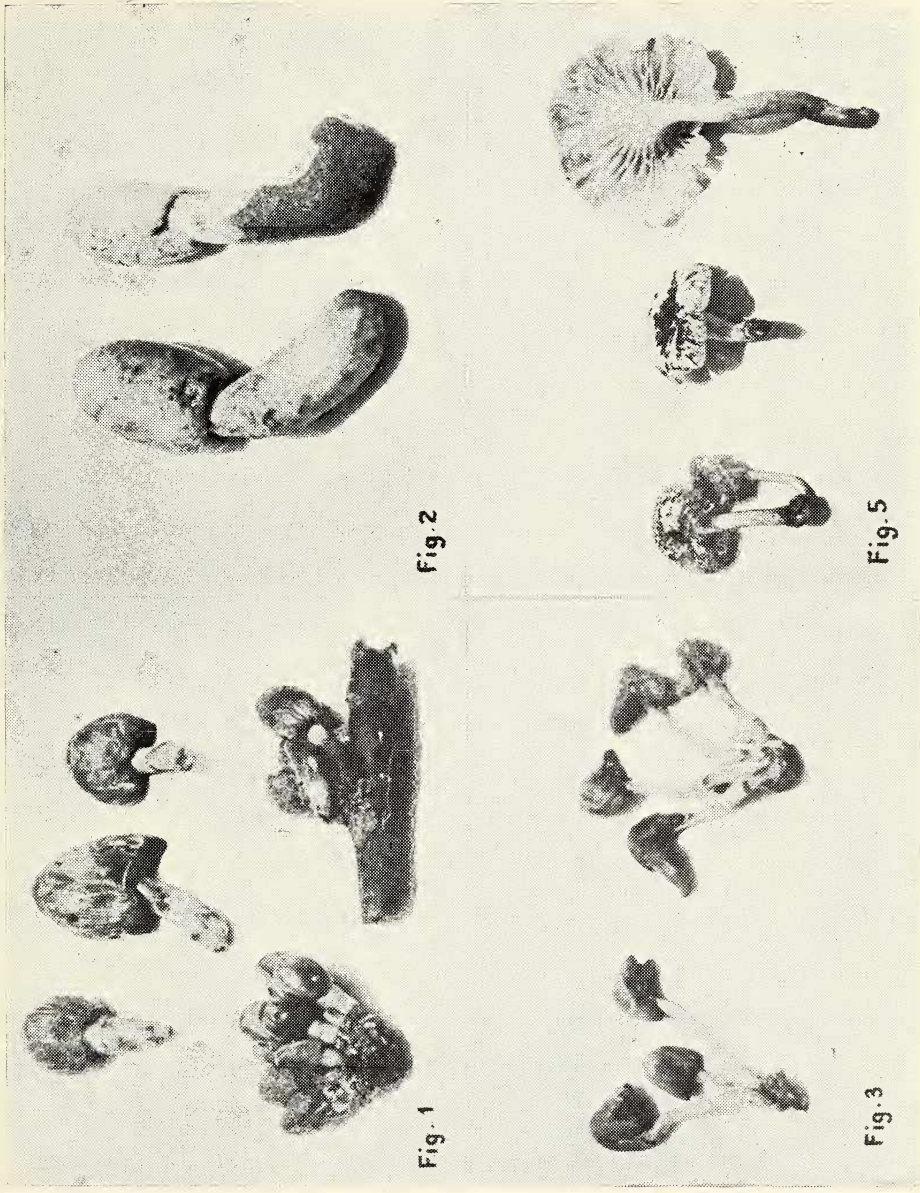


Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 1. *Coprinus atramentarius*

Fig. 2. *Coprinus comatus*

Fig. 3. *Coprinus micaceus*

Fig. 4. *Pleurotus salignus*

Fig. 5. *Pleurotus salignus*

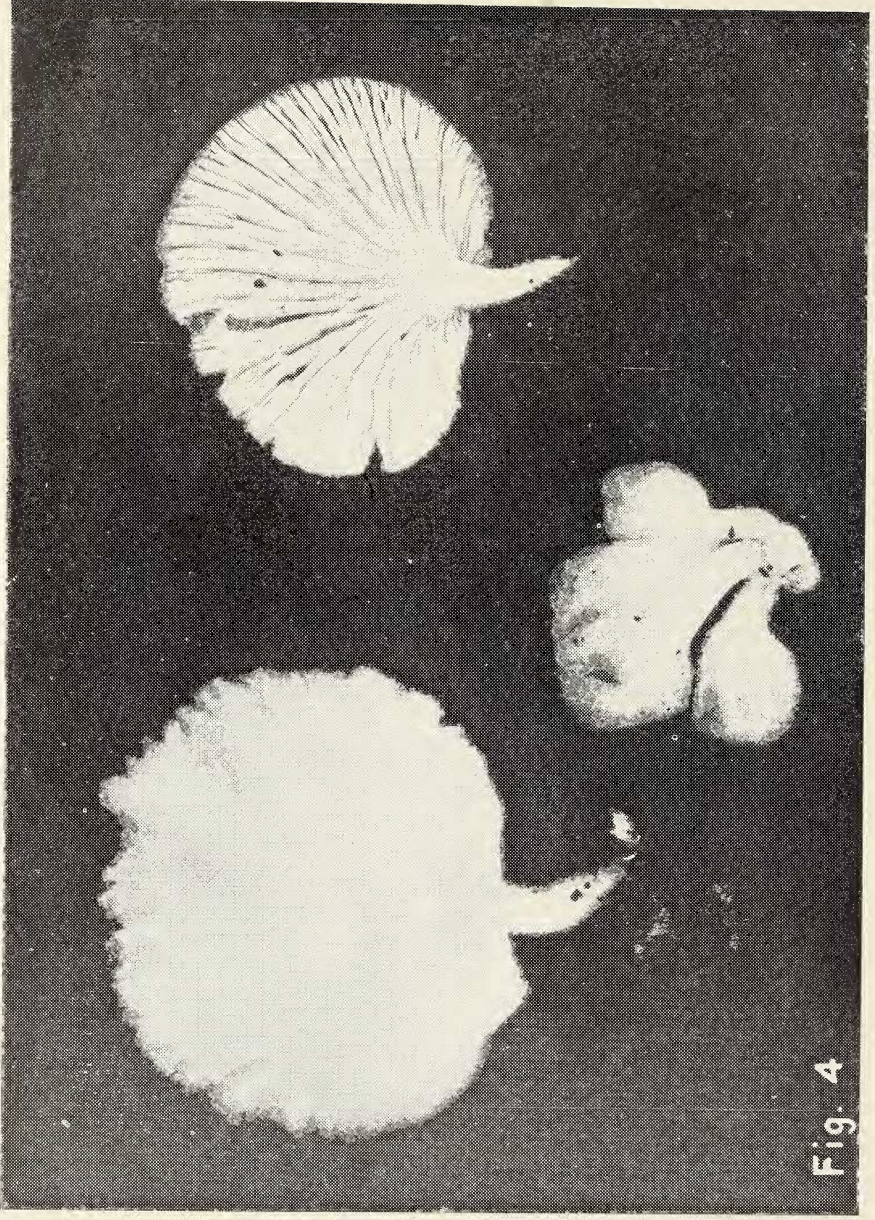


Fig. 4. *Pleurotus ostreatus* white form

Reported from Calcutta (West Bengal). New record for Kashmir valley.

Field notes: This mushroom appears in clumps near the base of standing trees of *Populus* spp., *Salix* spp., *Robinia* spp. or around their cut stumps in the valley. Grows in tufts of ten to thirty or more individuals. It appears in spring, summer and autumn in cool wet weather. It is commonly referred to in literature as glistening *Coprinus* because of the delicate scales covering the surface of the pileus which glistens in light like particles of mica. Prominent striations on the Cap and glistening scales distinguish it from other species of *Coprinus*. Since this mushroom occurs in clusters it offers a good meal to the villagers who collect it.

Genus *Pleurotus* Fr.

The genus is characterized by spore deposits of white colour when the cap is left for few hours on a clean surface; an eccentric or lateral stem; fleshy or tough texture of the cap. There is no annulus. Almost all species of *Pleurotus* grow on trees or on dead wood.

***Pleurotus ostreatus* Fr.** white form, Syll. Fung., 5:355, 1887.

Cap 1.5-12 cm wide, 2-10 cm long, soft, fleshy, convex or slightly depressed near the point of attachment. White, light grey or dark grey, often becoming yellow on drying, spatulate to kidney shaped, margin inrolled, imbricate in groups of 4-10 or more. Sessile or with a short stem.

Gills 5-10 mm wide, white, broad, decurrent, anastomosing at the base.

Stem when present short 1-3.5 cm long, 0.2-1 cm thick, lateral or eccentric.

Spores 8-11 × 3.3-4.3 μ, subcylindric, not amyloid.

Collected on decaying logs of *Euphorbia royleana* Boiss. from Katra Forests, Jammu (1000' a.s.l.) 13-ix-1966, T. N. Kaul & K. K. Janardhanan, Fig. 4.

The specimens were referred to Mr. E. J. H. Corner of Botany School, Cambridge who considers them close to *Pleurotus eugrammus* (Mont.) Dennis but in the absence of thorough study identified it as "*P. ostreatus* white form". *P. ostreatus* has not earlier been recorded from India. It is thus a new record. Corner (Personal communication) records the prevalence of the same white form in North Borneo. The detailed microscopic characters communicated by Prof. Corner are also recorded here.

Basidia 30-38 × 6 μ, 4 sterigmata. Cheilocystidia as sterile basidia or more inflated 5-8 μ wide, some with a short appendage, ill defined and not forming a sterile edge. Hyphae monomitic, clamped, 4-15